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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/899,502	07/06/2001	Ralf Reimelt		9930

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EXAMINER

FRANK, RODNEY T

ART UNIT PAPER NUMBER

2856

DATE MAILED: 06/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/899,502

Applicant(s)

REIMELT ET AL.

Examiner

Rodney T. Frank

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 13-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the Universal joint of claims 23 and 26 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "wires twisted in opposite directions" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner feels the word "siad" should be -said-. Correction may be needed.

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lütke et al.

(U.S. Patent Number 6,229,476) and further in view of Feese (U.S. Patent Number 4,171,609).

Lütke et al. (hereafter referred to as Lütke) discloses a liquid level meter. The meter comprises a signal generating unit (13) which generates high frequency measuring signals, a coupling-in unit (54) for coupling in on said waveguide the measuring signals, and waveguide (7) extending in the direction of the product when the apparatus is mounted on the container (3); a receiving/evaluating unit (15) for determining filling level or the position of the interface in the container via delay of time of the measuring signals reflected at the surface or interface of the product. Lütke does not however disclose a waveguide comprising a wire cable having a plurality of individual wires of a predetermined diameter twisted together.

Feese, however discloses a method and apparatus for manufacturing cables and lines with SZ-twisted elements. Column 1 lines 28-42 disclose a method of producing optical waveguides utilizing a method of twisting high tensile strength wires together.

The utilization of many ultrasonic transmission lines are well known in the art in reference to liquid level measurement. There are many types of transmission lines, such as waveguides, that may be used, which are well known. There are also many types of waveguides used that are well known to one of ordinary skill in the art. The motivation to combine Lütke with Feese is in order

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to obtain another embodiment of the system disclosed in Lütke utilizing a transmission line made from a waveguide produced by the SZ-twisted elements disclosed in Feese.

In reference to claim 14, column 6 lines 11 through 57 explains the basic operation of the receiving/evaluating unit.

In reference to claims 15 and 18, the applicant states on page 5 of the specification that 19 wires arranged in three layers is but one example of the waveguide, and therefore, this is a design choice of the applicant and not a limitation essential to the operation of the device.

In reference to claim 16, 19, and 20 specifically, column 2 lines 11-24 of Feese disclose that the wires twisted together have short reversal points of the twist direction.

In reference to claim 17, Feese discloses a waveguide as described in this claim.

Claims 21-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lütke et al., and further in view of Bachmann et al. (U.S. Patent Number 4,976,509). Lütke, as discussed earlier, discloses a liquid level meter. The meter comprises a signal generating unit (13) which generates high frequency measuring signals, a coupling-in unit (54) for coupling in on said waveguide the measuring signals, and waveguide (7) extending in the direction of the product when the apparatus is mounted on the container (3); a receiving/evaluating unit (15) for determining filling level or the position of the interface in the container via delay of time of the measuring signals reflected at the surface or interface of the product. Lütke does not however disclose a waveguide comprising a plurality of pieces, which are connected to one another via at least one flexible intermediate piece.

Bachmann et al. (hereafter referred to as Bachmann) discloses a flexible electrical control cable. The cable has a plurality of pieces (3), which are connected to one another via at least one flexible intermediate piece (2) comprising a wire cable. The pieces are tubes or rods. The

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waveguide (6) is covered in a mesh (10). The specifics to the majority of the claims is disclosed in column 2 lines 10-31.

In reference specifically to claims 30 and 31, page 8 of the specification describes how the transition of the piece and intermediate piece would be used as a defect to mark a reference point, and the cable described in Bachmann would be able to perform the same function.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney T. Frank whose telephone number is (703) 306-5717. The examiner can normally be reached on M-F 9am -5:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.

RTF
June 6, 2002


HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800